

naceæ—two orders of which the British members are also destitute, or nearly so, of raphides.

Here, then, as far as regards the British Flora, are three orders differing, in the possession of this character of raphis-bearing, from their neighbouring orders; while, on the other hand, as we have already shown ('Annals,' March 1864, p. 214, and 'Quart. Journ. Micros. Science,' Jan. 1864), the order Hydrocharidaceæ differs, in the regular want of this character, from its neighbours Trilliaceæ, Dioscoreaceæ, and Orchidaceæ, three orders in which raphis-bearing is a constant and intrinsic, plain and certain function of the cell-life, if not of every species, certainly of all that I have examined.

*Potamogetonaceæ* to *Characeæ*.—We have already seen how abundant raphides are in many Endogens; but, although it is stated in some of our best and latest books of phytotomy that raphides abound in Monocotyledones generally, it is remarkable that I have never yet found true raphides in any native plant of the orders from *Potamogetonaceæ* to *Characeæ*, both inclusive, and which occupy a fifth part of the text in the 'Manual of British Botany.' Thus true raphides, after either an absence from or presence in several different preceding orders of Monocotyledones, are next so abundant in *Typhaceæ*, *Araceæ*, and *Lemnaceæ*, and at last suddenly cease to characterize any of the following orders, from *Potamogetonaceæ*, through the rest of the class, down to and inclusive of the *Cryptogameæ Ductulosæ*.

Edenbridge, April 3, 1865.

[To be continued.]

XXXIX.—*Contributions to an Insect Fauna of the Amazons Valley.* COLEOPTERA: LONGICORNES. By H. W. BATES, Esq.

[Continued from p. 225.]

b. Thorax widest at the basal angles, gradually narrowed thence to the apex.

11. *Colobothea pimplæa*, n. sp.

*C. minus elongata et attenuata*, cinereo-vel griseo-fulva; capite fusco, vertice lineis duabus divergentibus cinereo-fulvis; thorace vittis septem fuscis, quarum una mediana latiore; elytris griseis, fuscó irroratis, cinereo-fulvo maculatis, fasciis tribus (apud suturam interruptis) fuscis, apice sinuato-truncatis, angulis interioribus prominulis, exterioribus spiniformibus. Long.  $4\frac{1}{2}$ –5 lin. ♂ ♀.

Head dingy brown, forehead streaked with tawny, vertex with two fine tawny lines diverging on the occiput. Antennæ black or reddish, fourth, sixth, eighth, and tenth joints with a whitish

ring. Thorax depressed at the base, ashy or tawny, with a broad central vitta, and, on each side, three narrower vittæ, purplish brown. Elytra moderately elongated, apex sinuate-truncate, with exterior angles produced into spines, and sutural angles dentiform; surface grey, minutely speckled with dusky and sprinkled with larger tawny (most often rounded) spots: each side has three transverse-quadrate purplish-brown spots or fasciæ, which do not reach the suture, the apex edged with tawny. Body beneath clothed with tawny-ashy pile; abdomen spotted on the sides with black. Legs reddish, spotted with ashy.

Terminal abdominal segment rather more tapering in the female than in the male; dorsal plate notched in both sexes; ventral plate terminating in spines in the male, angles simply acute in the female. Fore tarsi in the male moderately dilated, fringed with long hairs.

Branches of felled trees: Pará, Obydos, and banks of the Tapajos. Also found at Cayenne. I have seen it, in French collections, under the name of *C. sexlineata* (Reiche, MS.)—a name which I have not adopted, as the thorax has seven lines, and not six.

#### 12. *Colobothea destituta*, n. sp.

*C. minus elongata*, obscure grisea; capite nigro, vertice lineis duabus divergentibus griseis; thorace vittis septem nigris, quarum una mediana latiore; elytris obscure griseis, nigro confertim irroratis, cinereo-griseo maculatis, fasciis interruptis tribus vel duabus (plus minusve obsoletis) nigris, apice sinuato-truncatis, angulis interioribus prominulis, exterioribus spiniformibus. Long.  $4\frac{1}{2}$ –6 lin. ♂ ♀.

Head blackish, forehead streaked with ashy-grey, vertex with two fine ashy lines diverging on the occiput. Antennæ black, fourth, sixth, eighth, and tenth joints with a whitish ring. Thorax dull grey, with seven black vittæ, central one twice as thick as any of the rest. Elytra moderately elongated and tapering, apex sinuate-truncate, sutural angles dentiform, external spiniform; surface obscure grey, thickly irrorated with blackish, and having a few larger ashy, mostly rounded spots; each with two (and sometimes an indication of a third) transverse quadrate black spots, not distinctly limited. Body beneath ashy; abdomen spotted on the sides with black. Legs black, spotted with grey.

♂. Terminal ventral plate sinuate-truncate, angles acute; dorsal plate narrower, sinuate-truncate.

♀. Terminal abdominal segment elongated and tapering; both plates sinuate-truncate, not spinose.

On branches of dead trees, Pará.

#### 13. *Colobothea seminalis*, n. sp.

*C. minus elongata*, fusco-nigra; capitis vertice lineis duabus diver-



gentibus; thorace vittis sex, elytris maculis parvis partim confluentibus, cinereo-fulvis, his apice cano marginatis sinuato-truncatis, angulis exterioribus spinosis. Long.  $3\frac{3}{4}$ –5 lin. ♀.

Head blackish, forehead streaked with ashy-tawny, vertex with two ashy-tawny lines diverging on the occiput. Antennæ black or reddish, fourth, sixth, eighth, and tenth joints with a whitish ring at their bases. Thorax black, with three ashy-tawny longitudinal lines on each side; the sternum and the sides above the coxæ also tawny-ashy: on the surface near the base are two distinct punctures, besides the row along the hind margin. Elytra moderately elongated and tapering, deep brownish black, covered with little oblong tawny-ashy spots, which are collected together irregularly in some places, leaving small spaces of the ground-colour; the apex has a hoary spot. Body beneath tawny-ashy; abdomen spotted (as in the allied species) with black. Legs blackish, spotted with grey.

♀. Terminal ventral plate simply sinuate-truncate, angles not produced; dorsal plate narrower, emarginate at apex.

Branches of dead trees, Pará.

#### 14. *Colobothea paulina*, n. sp.

*C. robustior*, modice elongata, fusco-nigra; capitis vertice lineis duabus divergentibus; thorace vittis sex, elytris maculis parvis oblongis discretis, cinereo-fulvis, apice cano marginatis, sinuato-truncatis, angulis exterioribus spinosis. Long. 4–6 lin. ♀.

Head dusky, streaked with ashy-tawny, vertex with two ashy-tawny lines diverging on the occiput. Thorax black, with three tawny-ashy lines on each side; the sides above the coxæ and the sternum of the same colour; surface wanting the two punctures near the base which are distinctive of *C. seminalis*. Elytra brownish black, sprinkled with a number of small oblong tawny-ashy spots, which are so arranged as to leave black undefined spaces in the situations where lateral spots or fasciæ are usually situated in the allied species; apex edged with hoary white. Body beneath ashy-tawny; abdomen spotted with black on the sides. Legs black, spotted with grey.

♀. Terminal ventral plate broadly emarginated at the apex, and with a tooth in the middle of the emargination; angles produced into spines. Dorsal plate tapering, obtuse.

Upper Amazons, at S. Paulo, on branches of dead trees. The species has also been found in the interior of French Guiana by M. Bar. A closely allied form is found in Venezuela; but it differs greatly in the shape of the terminal abdominal segment in the female\*.

\* *Colobothea mosaica* (Deyrolle, MS.). Modice elongata, nigra, griseo maculata. Caput nigrum, orbita oculorum griseo marginata. An-

15. *Colobothea varica*, n. sp.

*C. modice elongata et attenuata, fusca; thorace dorso vittis duabus cinereo-fulvis, postice divaricatis, lateribus cinereo-fulvis vitta nigra; elytris maculis parvis cinereo-fulvis, partim discretis, partim subconfluentibus. Long. 4½–5 lin. ♂ ♀.*

Head dusky, forehead streaked with tawny-ashy; two diverging lines of the same colour on the vertex. Antennæ black, reddish towards the base; fourth, sixth, eighth, and tenth joints with whitish rings. Thorax black on the surface, with two thickish tawny vittæ diverging behind; sides and under surface ashy, each with a black stripe. Elytra moderately tapering, apex truncate, exterior angles spinose; surface dark brownish, sprinkled with small tawny spots, sometimes arranged in rows over the basal half, but agglomerated more or less beyond the middle, leaving clear spaces; in other examples more irregular, apex edged with whitish. Body beneath somewhat uniformly clothed with tawny-ashy tomentum (except, as usual, the terminal segment). Legs reddish, spotted with ashy.

♂ ♀. Terminal abdominal segment tapering; dorsal plate rounded at tip; ventral broadly truncate, with angles produced into short and broad spines, and middle of the truncation slightly advanced or festooned. The fore tarsi in the ♂ are simple.

Branches of dead trees, Ega; abundant.

16. *Colobothea propinqua*, n. sp.

*C. modice elongata et attenuata, fusca; thorace cinereo-fulvo, vittis septem fusco-nigris, una mediana et tribus utrinque lateralibus quarum duabus postice conjunctis tertiaque inferiore tenuissima; elytris maculis parvis cinereo-fulvis in seriebus interruptis ordinatis. Long. 5 lin. ♀.*

Head blackish, streaked with greyish; vertex with two divergent grey lines; antennæ black, reddish towards the base, fourth, sixth, eighth, and tenth joints ringed with white. Thorax ashy, with seven black vittæ—namely, one in the middle, broader, two on each side converging and blending before reaching the base, and one below them very slender. Elytra truncate at apex, with exterior angles spiniform; surface dark brown,

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tennæ fuscae, griseo tomentosæ, articulis basi pallidioribus. Thorax griseus, vittis octo nigris, dorso punctis duobus prope basin. Elytra modice attenuata, apice truncata, angulis exterioribus spiniformibus, nigra, maculis quadratis griseis in seriebus sex vel septem ordinatis, pone medium et prope apicem interruptis. Corpus subtus cinereo-fulvo tomentosum, nigro maculatum. Pedes picei, cinereo tomentosi. Fœminæ segmento terminali abdominis attenuato, apice fisso. Long. 6 lin. *Hab.* in Venezuela. *Coll.* Bates.

covered with distinct ashy-tawny spots, arranged partly in rows, but interrupted by oblique clear spaces near the base, at the middle, and near the apex; apex with an ashy spot on each elytron, much enlarged towards the suture. Body beneath clothed with tawny-ashy tomentum; abdomen spotted with black. Legs reddish, spotted with black and ashy.

♀. Terminal ventral segment strongly tapering; ventral plate truncate, angles produced into lengthy spines; dorsal plate rounded at apex.

S. Paulo, Upper Amazons. It is very closely allied to *C. varica*, but differs in the thoracic markings from all the numerous specimens which I have examined of that species.

#### 17. *Colobothea nævia*, n. sp.

*C. elongata*, nigra; thorace vittis quatuor tenuibus, elytris maculis parvis, rotundatis, dispersis, cinereis; corpore subtus vitta laterali fulvo-cinerea tomentosa infra nigro marginata. Long.  $4\frac{1}{2}$ –6 lin. ♂ ♀.

Head black, streaked with tawny, vertex with two diverging lines of the same colour. Thorax black, with four tawny-ashy lines, the two dorsal ones not at all divergent. Elytra somewhat more elongated than in the preceding species; apex truncate, outer angles spinose; surface black, shining, and sprinkled with rounded tawny-ashy scattered spots, which sometimes leave a clear space behind the middle and near the apex; apex margined with whitish. Body beneath greyish; each side with a broad stripe of dense tawny tomentum extending from the front margin of the prothorax to the tip of the abdomen, interrupted on each segment of the latter by a black spot. Legs ashy, spotted with black.

♂. Terminal ventral segment elongated, flattened, tapering, very much longer than the dorsal, and deeply notched at the apex. Anterior tarsi not dilated, but fringed with long fine hairs.

♀. Terminal ventral segment tapering, apex sinuate-truncate, angles spinose; dorsal segment obtuse at apex, slightly notched in the middle.

On branches of dead trees, Ega. An abundant species.

#### 18. *Colobothea juncea*, n. sp.

*C. gracilior*, angustata, fusca; thorace cinereo-fulvo, vittis septem fuscis; elytris pone humeros sensim, apices versus citius attenuatis, maculis parvis cinereo-fulvis plerumque confluentibus. Long.  $4\frac{1}{2}$  lin. ♀.

Head blackish, streaked with ashy-tawny, vertex with two diverging tawny lines. Thorax ashy-tawny, with seven blackish vittæ. Elytra slender, tapering gradually from the shoulders to



near the apical spines, thence more quickly narrowed; apex truncate, outer angles spinose; surface sprinkled with ashy-tawny specks, agglomerated here and there into irregular larger spots, and leaving a clear space near the apex; apex broadly edged with white. Body beneath reddish, clothed with ashy tomentum, which is denser on the sides of the breast, and more scanty along the middle of the abdomen. Legs reddish, spotted with grey and black.

♀. Terminal abdominal segment tapering and narrow; ventral plate sinuate-truncate, angles not prominent; dorsal plate with a shallow angular emargination.

Pará.

19. *Colobothea securifera*, n. sp.

*C. modice elongata, postice attenuata, fusca; thorace vittis sex. cinereo-fulvis; elytris maculis parvis cinereo-fulvis conspersis, singulis spatio magno discoidali fusco maculam majorem cinereo-fulvam includente: maris segmento terminali ventrali angulis in lobos securiformes productis. Long. 4½ lin. ♂ ♀. (7 exempl.)*

Head reddish brown, streaked with tawny, and with two divergent tawny lines on the crown. Antennæ reddish, bases of alternate joints from the sixth ashy. Thorax chestnut-brown or dark brown, with six vittæ and the under surface ashy-tawny. Elytra rather short, tapering gradually and rather strongly from base to apex; apex sinuate-truncate, external angles spinose; surface dark castaneous brown or blackish brown, the basal and apical parts dusted with irregular-sized tawny-ashy specks, leaving a broad clear middle space, in the centre of which (on each elytron) is a large irregular tawny-ashy spot; apex with a triangular broadish ashy spot. Body beneath clothed with tawny-ashy pile. Legs reddish; tarsi and tibiæ spotted with ashy and black.

♂. Terminal ventral segment short and broad, each apical angle produced into a long, deflexed, horny, hatchet-shaped lobe; dorsal segment narrowed and emarginated at the apex: fore tarsi moderately dilated, not fringed; first joint not broader than the second.

♀. Terminal ventral segment tridentated, middle tooth shorter and broader than the outer ones; dorsal segment narrow and obtuse.

Pará and Lower Amazons.

20. *Colobothea sejuncta*, n. sp.

*C. modice elongata, postice attenuata, fusca; thorace vittis sex. cinereo-fulvis; elytris maculis parvis cinereo-fulvis conspersis, singulis spatio magno discoidali fusco maculam majorem cinereo-*

fulvam includente: maris segmento terminali ventrali obtuso, inermi, angulis penicillatis. Long.  $4\frac{1}{2}$  lin. ♂ ♀. (3 exempl.)

Head reddish brown, streaked with tawny, and with two divergent tawny lines on the crown. Antennæ reddish, bases of alternate joints from the fourth or sixth ashy. Thorax chestnut-brown or darker, with six vittæ and the under surface ashy-tawny. Elytra rather short and slender, gradually and rather strongly tapering from base to apex; apex sinuate-truncate, both sutural and external angles spinose, the sutural shorter; surface dark castaneous brown, the basal and apical parts sprinkled with irregular-sized tawny-ashy specks, leaving a broad clear space on the disk of each, in the centre of which is a larger irregular tawny-ashy spot; apex with an ashy margin of regular width. Body beneath clothed with tawny-ashy pile. Legs reddish; tibiæ and tarsi spotted with ashy and black.

♂. Terminal abdominal segment rather elongate, thickened before the apex; the ventral plate with obtuse angles, from each of which proceeds a line of thick bristles; dorsal plate simple at the apex, and closely applied to the sloping front margin of the ventral. Fore tarsi with the first joint greatly dilated.

♀. Terminal abdominal segment strongly tapering and notched at the apex.

Ega, Upper Amazons.

The very great and striking difference in the accessory genital organs between these two closely allied species (*Colobothea securifera* and *C. sejuncta*) merits a few words of especial mention. When I was separating my specimens of *Colobothea* into species, I placed together all the individuals belonging to these two as one and the same, and could not find anything in their form or markings to warrant their being treated as anything more than mere local varieties, even after I had given them a second examination. A species has so often proved to exist under distinct local forms on the Upper and Lower Amazons, that I concluded this was simply another example of the rule. When I came, however, to separate the sexes previous to describing the species, I discovered the remarkable difference of structure described above, and then noticed the two or three other small points of difference in the general shape and tips of the elytra which I have noted in the descriptions. A pair of elongated horny processes, which I suppose to be the sheath of the penis, project from between the terminal abdominal segments in two out of the three males I possess; in the third they appear to be withdrawn into the abdomen. It is a remarkable circumstance, that in many families of Insects which have accessory sexual parts easy of examination, it is found that these differ very considerably in structure in closely allied species. It has been

remarked that they offer some of the best characters to distinguish species, and they have been made use of to separate species which scarcely offered any other distinguishable characters. Mr. Baly has also discovered that the horny penis concealed in the male abdomen of Phytophagous Coleoptera differs in form in closely allied species; and he has shown me a long series of specimens mounted for examination under the microscope, belonging chiefly to the genera *Chrysomela* and *Eumolpus*, which offer a most instructive study, since by their means some forms before considered as varieties turn out to be distinct species. This class of facts seems to me of great significance, as throwing light on the segregation of varieties and their passage into true species. For if we admit that the only sound difference between allied varieties and allied species is that the former intermarry, and the latter do not, then the abrupt and great diversities of structure in those organs most directly involved in the matter must be considered as affording an explanation why many varieties do not intercross with the parent stock, and therefore remain as independent forms or species. The difference in the accessory male organs of our two allied species or local forms of *Colobothea* is so great that no one who examines them can believe both to be adapted to the corresponding organs of the females of each form. At the same time I have no doubt that, were it not for the great difference between these organs in our two forms, no entomologist would doubt their being mere local varieties of one and the same stock. Scores of other local varieties occur in the same countries, presenting all the successive steps of segregation, from the most partial variation to the full-formed local race.

Thus we have only to admit that species disseminate themselves over wide areas, and adjust themselves to the diversities of local conditions, or, in other words, segregate local varieties, to open the way towards an explanation of the way in which the world has become peopled by its myriads of species. The inevitable law of Natural Selection which governs the general process of the adjustment of the local races to new conditions will explain the changes of conditions of life in time; and the laws of variation, diversified in details as are the species themselves, will explain the rest.

21. *Colobothea bisignata*, n. sp.

*C. modice elongata*, fusca; thorace vittis novem cinereis; elytris maculis parvis subconfluentibus cinereis, relicto spatio medio fusco maculam magnam albam includente. Long. 5 lin. ♂ ♀.

Head rusty brown, streaked with ashy, vertex with two ashy lines divergent towards the occiput. Antennæ rusty brown,



tips of joints blackish, bases of alternate joints whitish. Thorax with nine ashy longitudinal lines, the central one the slenderest, the second (from the central one) not reaching the hind margin, and the two lateral ones on each side very oblique. Elytra moderately short and tapering, apex sinuate-truncate, external angle produced into a long tooth; dark purplish brown, sprinkled near the base and apex with ashy dots, which unite here and there in irregular strigæ; the central space clear, and having in the middle of each elytron a large round white spot; there is also a small white spot on the suture near the scutellum. Body beneath clothed with dingy-ashy pile; abdomen spotted with black. Legs purplish brown, ringed with ashy.

♂ ♀. Terminal abdominal segment similar in form in the two sexes, longer and tapering in the female; the ventral plate in both truncated, with angles simply acute; the dorsal plate distinctly notched in the middle of its apex in the female, obtuse in the male. Tarsi simple in the male.

A common insect on dead branches, &c., at Ega.

## 22. *Colobothea latevittata*, n. sp.

*C. elongata*, angustior; thorace sordide fulvo-cinereo, vitta lata mediana alteraque tenui laterali fuscis; elytris postice attenuatis, humeris valde obliquis, fuscis, maculis fulvo-vel sordide cinereis plagiatis conspersis. Long. 4-5 lin. ♂ ♀.

Head blackish, streaked with tawny, vertex with a single tawny line extending to the occiput. Antennæ long and slender, dusky brownish at the tips and ashy at the bases of the joints. Thorax with a small acute prominence on each side near the base; clothed with dingy tawny or ashy tomentum, leaving a broad stripe in the middle and a slender line on each side of the disk dark brown. Elytra rather slender and tapering; shoulders very oblique, apex somewhat narrow and sinuate-truncate, with sutural angle slightly prominent, external dentiform; surface brown, covered with dingy ashy or tawny spots, which unite together in patches, leaving irregular brown spaces. Body beneath dingy tawny; abdomen not spotted with black on the sides. Legs rusty brown, varied with black, and ringed with ashy.

♂. Anterior tarsi dilated and fringed. Terminal abdominal segment short, truncated; ventral plate emarginated at the apex.

♀. Terminal abdominal segment greatly elongated and sub-tubular; dorsal plate slender, obtuse; ventral truncated, angles not produced.

Var. *Obydensis*. A female example in my collection from Obydos, on the Guiana side of the Lower Amazons, differs from

the typical form in having a distinct quadrate silky-brown spot on each elytron close to the apex, and also a distinct broad dusky stripe along the episterna of the prothorax.

Taken at Carepí, near Pará; found also, but sparingly, at Santarem and at Ega.

23. *Colobothea styligera*, n. sp.

*C. elongata*, thorace fulvo-cinereo, vitta lata mediana alteraque tenui laterali velutino-nigris, lateribus infra cinereo-fusco late vittatis; elytris postice attenuatis, cinereo-fulvo dense conflunter maculatis, relictis utrinque macula rotundata pone medium alteraque quadrata apicali nigro-fuscis. Long. 6 lin. ♂ ♀.

Head blackish, streaked with tawny; vertex with a single tawny line. Antennæ blackish, bases of fourth to sixth joints white. Thorax with the posterior angles extending laterally towards the shoulders of the elytra, above tawny fulvous, with a broad velvety-black central vitta, and a narrow lateral line of the same colour. The episterna have a broad ashy-brown stripe. Elytra tapering, shoulders less oblique, densely clothed with confluent ashy-tawny spots, leaving a rounded discoidal spot on each behind the middle, and a quadrate one close to the apex, dark brown; apex sinuate-truncate, sutural angle slightly prominent, external dentiform. Body beneath ashy, varied with tawny patches; abdomen spotted with dusky. Legs tawny-ashy, spotted with black.

♂. Anterior tarsi dilated and fringed. Terminal abdominal segment not reaching the tip of the elytra, narrowed towards the apex; dorsal plate obtuse, ventral truncate-emarginate.

♀. Terminal abdominal segment tubular, prolonged considerably beyond the apex of the elytra; dorsal plate lanceolate; ventral truncated, angles not produced.

Ega.

24. *Colobothea grallatrix*, n. sp.

*C. elongata*, postice valde regulariter attenuata, nigra; thorace vittis sex cinereo-fulvis, lineolaque mediana cinerea; elytris cinereo fulvoque dense conflunter irroratis, maculis tribus utrinque discoidalibus plagaque magna apicali nigris; maris pedibus longissimis validis. Long. ♂  $6\frac{1}{2}$ , ♀  $4\frac{1}{2}$  lin.

Head blackish, streaked with tawny, vertex with two tawny-ashy slightly divergent lines. Antennæ robust, black, bases of alternate joints ringed with whitish. Thorax black, and having on each side three tawny-ashy vittæ, and a thin grey line down the middle of the black central streak. Elytra with shoulders moderately prominent laterally and vertically, thence regularly tapering to the apex, which is truncated, with the sutural angle moderately produced, and the apical angle spiniform; the surface is thickly covered with confluent spots, partly grey and

partly fulvous, which leave, on the disk of each, three spots (one before the middle, and two, placed obliquely, after the middle) and a large square black apical spot of a fine black colour; apex margined with ashy. Body beneath grey; sides, from the front of the prothorax to the penultimate ventral segment, occupied by a broad ochreous-tawny stripe; sides of abdomen spotted with black. Legs ashy, spotted with black.

♂. Legs greatly elongated, and stouter than in the female; anterior tarsi broadly dilated and hirsute. Terminal abdominal segment short; apex both of the dorsal and ventral plates emarginated.

♀. Terminal abdominal segment narrow and moderately elongated, obtuse, angles not produced.

Ega and S. Paulo; rare.

25. *Colobothea olivencia*, n. sp.

*C. elongata*, postice regulariter attenuata, nigra; thorace vittis quatuor cinereo-fulvis; elytris confluentur fulvo-cinereo maculatis, plaga quadrata apicali nigra. Long.  $5\frac{1}{2}$ – $6\frac{1}{2}$  lin. ♂ ♀.

Head blackish, streaked with tawny, vertex with two divergent tawny-ashy lines. Antennæ black, fourth, sixth, and tenth joints white at the base. Thorax black; disk with two tawny-ashy vittæ continuous with the lines on the crown of the head, and, like them, divergent posteriorly; besides these, there is a narrower vitta on each side at the extreme edge of the pronotum, and scarcely visible from above. Elytra with a prominent black tubercle at the apex of the prominent shoulders, gradually tapering, apex truncate, sutural angles scarcely prominent, external spiniform; surface sprinkled with tawny (and a few grey) spots, which are confluent, but do not leave very distinct black spaces; close to the apex, on each, is a large square black patch, the apex itself being edged with whitish. Body beneath ashy-tawny; breast, and abdomen on the sides, streaked or spotted with black. Legs varied with ashy and black.

♂. Larger and more robust than the female, both in body and limbs; anterior tarsi dilated and fringed. Terminal abdominal segment short, apex of both the dorsal and ventral plates emarginated.

♀. Terminal abdominal segment elongated, and projecting beyond the apex of the elytra, but not tubular, and somewhat flattened, with the apex both of the dorsal and ventral plates truncated and notched in the middle.

S. Paulo, Upper Amazons; rare.

26. *Colobothea pura*, n. sp.

*C. elongata*, postice attenuata, nigra; thorace vittis quatuor elytris-



que maculis confluentibus cinereo-fulvis, his spatio apicali nigro; antennis robustissimis ( $\sigma$ ), nigris, articulo sexto annulo lato albo, 8<sup>vo</sup> et 10<sup>mo</sup> basi cinereis. Long.  $5\frac{1}{2}$ - $6\frac{1}{2}$  lin.  $\sigma$ .

Head black, with ashy lines, vertex with two divergent tawny-ashy lines. Antennæ ( $\sigma$ ) extremely stout, gradually tapering to the apex, deep black; the joints from the base to the sixth spotless; the sixth has a white ring occupying two-thirds of the length of the joint; the base of the eighth joint is grey (on one side only), and the tenth joint has an ashy ring. Thorax deep black, the central part with two ashy-tawny vittæ not continuous with the lines of the crown, and parallel; the sides near the episternum have also each a tawny-ashy line. Elytra tapering in straight lines to the apex, the latter truncated, with sutural angle not produced, external dentiform; surface thinly and irregularly sprinkled with punctures, each of which has a very short strong bristle, and being surmounted by a granule; olivaceous-black, sprinkled with ashy or tawny-ashy specks, everywhere confluent and forming a marbled pattern, but leaving a black space near the apex; apex itself edged with ashy. Body beneath grey, varied with tawny, and having, in fresh examples, a tawny-ochreous lateral vitta from the front edge of the prothorax to the last segment of the abdomen; abdomen thinly clothed with grey pile, sides spotted with black. Legs black, thinly clothed with grey pile; knees and tips of tibiæ and tarsi black.

$\sigma$ . Legs elongated and robust; anterior tarsi dilated and fringed. Terminal ventral segment semicircularly sinuated at the apex, with the angles acute and produced; dorsal plate broad, obtuse, faintly emarginated.

Obydos, Lower Amazons.

### 27. *Colobothea carneola*, n. sp.

*C. elongata*, postice modice attenuata, nigra; thorace vittis quatuor, elytrisque maculis numerosis discretis, carneo-fulvis, his spatio apicali nigro; antennis ( $\sigma$ ) normalibus, articulis 4<sup>to</sup>, 6<sup>to</sup>, 8<sup>vo</sup>, 10<sup>mo</sup> albo annulatis. Long.  $5\frac{3}{4}$  lin.  $\sigma$ .

Very closely allied to *C. pura*, but differs in the degree of robustness and coloration of the antennæ, and in the spots on the elytra being nearly all quite separate and inclining in colour towards pinkish red. The elytra are sprinkled with punctures, as in *C. pura*, but they are not so conspicuous, nor surmounted by elevated points; the bristles are more numerous towards the apex, although the punctures from which they arise are not conspicuous. Body beneath and legs as in *C. pura*.

$\sigma$ . Terminal ventral segment semicircularly sinuated at the

apex, with the angles acute; dorsal obtusely truncated. Anterior tarsi dilated and fringed.

Obydos.

28. *Colobothea forcipata*, n. sp.

*C. gracilis*, postice valde attenuata, nigra, vertice thoraceque vitta lata communi cinerea; elytris cinereo nebulosis, relictis plagis lateralibus et vitta lata apicali nigris; antennis nigris, articulo 6<sup>to</sup> albo annulato; maris segmento ventrali terminali forcipato. Long. 4-5½ lin. ♂.

Head black, forehead spotless, vertex with a broadish ashy line, which continues along the middle of the thorax, enlarging posteriorly, the rest of the surface of the thorax deep black. Antennæ black, sixth joint alone marked with a white ring. Elytra gradually attenuated from base to apex, the latter sinuate-truncate, sutural angle prominent, external spiniform; surface punctured, setose, and marked with an ashy cloud extending from the scutellum to near the apex, and emitting several irregular branches; the apical part is crossed by a broad black vitta, the apex itself being edged, as usual, with white. Body beneath ashy; sides of thorax and abdomen with a broad yellowish vitta. Legs ashy, spotted with black.

♂. Terminal ventral segment with each side produced into a long, compressed, incurved, horny lobe, the apex of which is obliquely truncated; dorsal plate obtusely rounded at apex.

Eggs, rare.

[To be continued.]

XI.—*Diagnoses of new Forms of Mollusca from the West Coast of North America, first collected by Col. E. Jewett.* By PHILIP P. CARPENTER, B.A., Ph.D.

[Concluded from p. 182.]

*Mangelia variegata*.

*M. testa* valde attenuata, tenui, parva, pallide carnea, rufo-fusco normaliter bizonata, interdum unizonata, seu zonis interruptis; vertice nucleoso conspicuo, anfr. uno et dimidio, apice mamillato; anfr. norm. vi., subrotundatis, suturis valde impressis; costis radiantibus ix., angustis; costulis spiralibus crebris, validioribus, in spira circ. x., costas superantibus; apertura valde elongata; canali brevi, aperto; labro tenui, juxta suturam conspicue arcuato; labio tenui. Long. 31, long. spir. 17, lat. 1 poll., div. 22°.

Variat costis crebrioribus, sculptura minus expressa.

*Hab.* Sta. Barbara (Jewett).

*Mangelia* (? *variegata*, var.) *nitens*.

*M. testa* *M. variegatæ* simili, sed nitentiore, fascia alba et altera